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Master thesis

Study of the effect of EGFP on cytotoxicity of platinum-based drugs

## **Abstract**

The aim of the present study is to investigate possible impact of EGFP on the resistance of cancer cells to platinum-based drugs (cisplatin, carboplatin and oxaliplatin). The work follows on our previous study with BCRP efflux transporter, which suggested that higher resistance of cancer cells to platinum-based drugs is caused rather by the presence of EGFP than by the efflux transporter. To confirm this hypothesis series of cytotoxic MTT tests were performed on human Hep2 parent cell line and Hep2-EGFP cell line transfected for the expression of EGFP. Our results demonstrated higher tolerance of transfected Hep2-EGFP cells to platinum-based drugs compared with the parent Hep2 cell lines. Based on the obtained results we conclude that EGFP interferes with the toxicity of platinum-based drugs, which can cause misinterpretation of results obtained in the cytotoxicity studies.